

Notice of Allowability

Application No.

09/434,394

Examiner

Hoang-Vu A. Nguyen-Ba

Applicant(s)

YATES ET AL.

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Supplemental Amendment After Final filed 10/24/06.
2. ☒ The allowed claim(s) is/are 1-59 and 61-65.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



ANTONY NGUYEN-BA
PRIMARY EXAMINER

Examiner's Statement of Reasons for Allowance

1. Claims 1-59 and 61-65 are allowed.
2. The following is an examiner's statement of reasons for allowance.

The prior art of record, i.e., U.S. Patent No. 5,926,484 to Takusagawa, taken singly or in combination, fails to teach or suggest in the context of detecting reordered side-effects at least the following features:

to identify an individual memory-reference instruction, or an individual memory reference of an instruction, a side-effect arising from the memory reference having been reordered by the translator, the memory reference having been believed at translation time to be directed to well-behaved memory but that at execution time is found to reference a device with a valid memory address that cannot be guaranteed to be well-behaved, based at least in part on an annotation encoded in a segment descriptor (claim 1);

evaluating whether an individual memory reference of an instruction references a device having a valid memory address but that cannot be guaranteed to be well-behaved, based at least in part on an annotation encoded in a segment descriptor, a segment descriptor being data for controlling address formation by designating a segment base address, a segment length, and segment access control information (claims 2 and 14);

identifying a load that was believed at translation time to be directed to well-behaved memory but that at execution time is found to be directed to non-well-behaved memory, based at least in part on an annotation encoded in a segment descriptor, and aborting the identified memory load, a segment descriptor being data for controlling address formation by designating a segment base address, a segment length, and segment access control information (claim 22);

identify, based at least in part on an annotation encoded in a segment descriptor, a segment descriptor being data for controlling physical address formation by designating a segment base address, a segment length, and segment access control information, memory loads that were believed at translation time to be directed to well-behaved memory but that at

execution time are found to be directed to non-well-behaved memory, and to abort the identified memory load (claim 30);

detecting a side-effect about to be committed to processor state in which the differing side-effect sequence may have a material effect on the execution of the program, and aborting the side-effect; establishing a program state equivalent to a state that would have occurred in the reference execution; and resuming execution of the program from the established state in an execution mode that reflects the reference side-effect sequence (claim 40; a variant of this feature is recited in claim 55).

During one of the series of telephone conversations, the following statement was agreed to by the examiner and Applicants' Representative:

The amendments to claims 2 and 14 are not narrowing. Rather, they merely state expressly the broadest reasonable interpretation of the term "segment descriptor" consistent with the specification, that is the ordinary and customary meaning of the term, the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, and the interpretation that was previously inherent in the application as filed.

The claim amendments have been evaluated for compliance with the "written description" requirement of § 112 ¶ 1 and the "new matter" prohibition of § 132, and the Examiner concludes that no rejection or objection is warranted.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang-Vu "Antony" Nguyen-Ba whose telephone number is (571) 272-3701. The examiner can normally be reached on Tuesday-Friday from 7:05 am to 5:35 pm.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Tuan Dam can be reached at (571) 272-3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).



ANTONY NGUYEN-BA
PRIMARY EXAMINER

October 26, 2006